Mali 1997/98
Current Vulnerability Assessment
February 1998

Famine Early Warning System Project

U.S. Agency for International Development

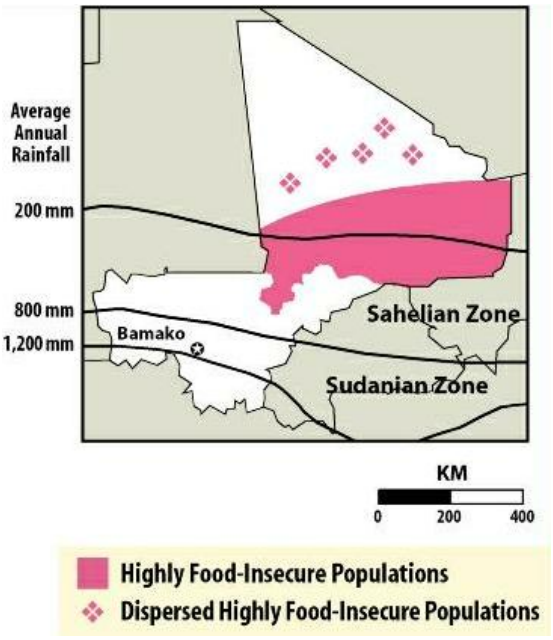
Mali 1997/98 Current Vulnerability Assessment

Good agricultural production in Mali leaves most of the population food secure in 1998

SUMMARY

The 1997/98 agricultural season started early or on time in most agropastoral areas of Mali. Favorable distribution of rainfall in the crucial August-September period assured good harvest results in the major cereal-growing areas and good pasture conditions across much of the pastoral zone. Although 1997/98 cereal production did not attain the record levels of 1994/95, it was 7 percent superior to 1996/97 levels and 9 percent above the average for 1992/93 through 1996/97. Production of all cereals increased from last year's levels. As of October 31, 1997, national stocks were estimated at 205,760 MT, 14 percent higher than at the same period in 1996. With estimated cereal availability of 2.08 million MT and estimated needs of 2.06 million MT, and taking into account projected net commercial imports and food aid (mostly wheat), there is a net cereal surplus of 65,000 MT—around 54 percent more than in 1996.

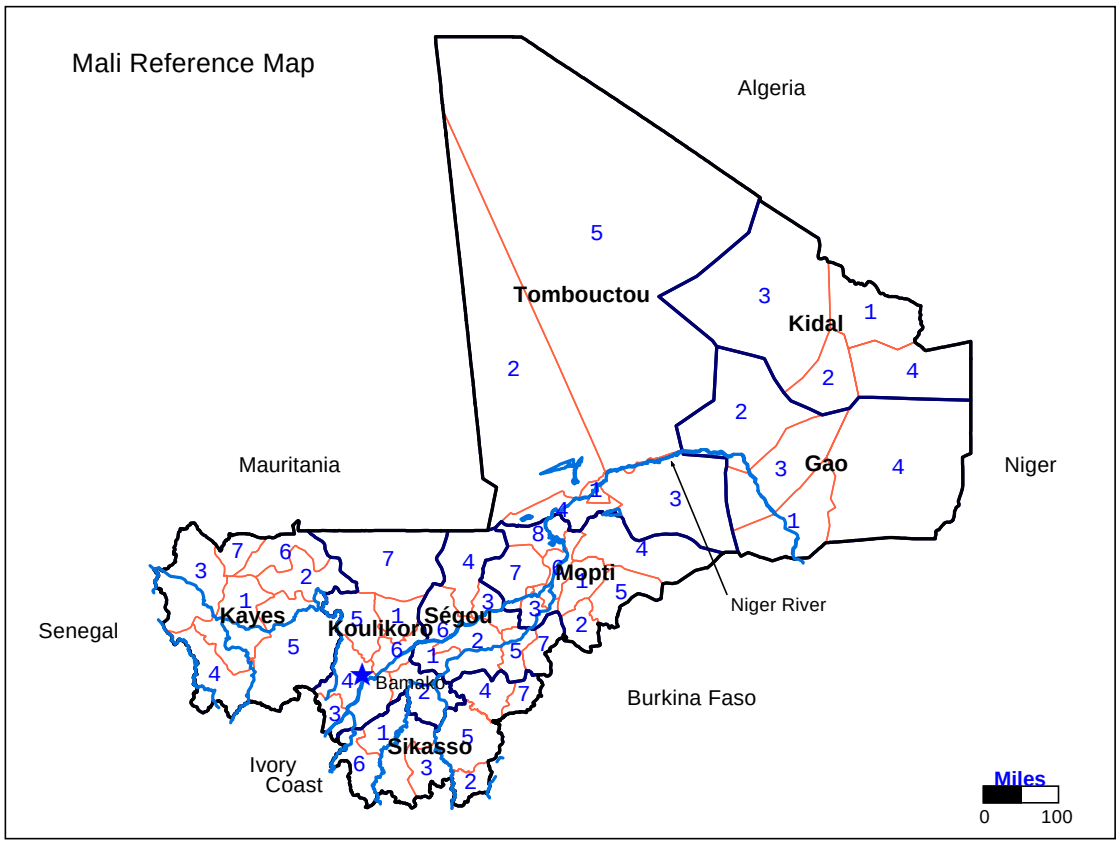
Highly Food Insecure Populations in Mali in 1997/98



Source: FEWS
Figure 1

At the prospect of good harvests, cereal prices began falling in August 1997 and continued to drop through October, making access to cereals easier than in 1996. Consequently, the majority of Malians are food secure in 1997/98 (see Terminology Box). However, in Mopti and Tombouctou Regions, the combination of late rains and attacks by grain-eating birds resulted in more than 50 percent of area planted being lost in some areas. In Tombouctou Region, as a result of the heavy losses in rainfed and recessional crops, approximately 107,400 persons are highly food insecure (figure 1). Included in this population are 90,000 persons identified by the National Early Warning System (SAP) as experiencing "food difficulties." Depending on the evolution of conditions in the region, the SAP may recommend up to 2,500 MT of cereals for distribution beginning in April 1998.

In areas of the north where food insecurity levels have been elevated during the past 5 years as a result of the armed rebellion, the return of peace and re-establishment of economic and development activities have resulted in increased food security. However, 5 years of armed conflict have had lingering effects: some herders lost all their livestock, and banditry continues to disrupt economic activity. As a result, around 63,000 nomad pastoralists in Gao, Kidal, and Tombouctou Regions are highly food insecure while another 148,000 are moderately food insecure.



Map Reference Table

Gao Region	Map Number	Kidal Region	Map Number	Mopti Region	Map Number	Sikasso Region	Map Number
Ansongo	1	Abeïbara	1	Bandiagara	1	Bougouni	1
Bourem	2	Kidal	2	Bankass	2	Kadiolo	2
Gao	3	Tessalit	3	Djenné	3	Kolendieba	3
Ménaka	4	Tin-Essako	4	Douentza	4	Koutiala	4
				Koro	5	Sikasso	5
				Mopti	6	Yanfolila	6
				Ténenkou	7	Yorosso	7
				Youvarou	8		
Kayes Region	**Map Number**	**Koulikoro Region**	**Map Number**	**Ségou Region**	**Map Number**	**Tombouctou Region**	**Map Number**
Bafoulabé	1	Banamba	1	Baraoueli	1	Diré	1
Diéma	2	Dioila	2	Bla	2	Goundam	2
Kayes	3	Kangaba	3	Macina	3	Gourma-Rharous	3
Keniéba	4	Kati	4	Niono	4	Niafunké	4
Kita	5	Kolokani	5	San	5	Tombouctou	5
Nioro	6	Koulikoro	6	Ségou	6		
Yélimané	7	Nara	7	Tominian	7		

Figure 2

I. INTRODUCTION

This Current Vulnerability Assessment (CVA) presents an analysis of the impact of recent events on populations' current food security status. Food security is a measure of whether an individual, household, community, or any population group has access to sufficient safe and nutritious foods that meet dietary needs and food preferences for an active life. There are two important aspects of food security: food availability and food access.

1. **Food availability** is defined as the amount of food which is, and will be, physically present in the country during the current consumption year.[1]
2. **Food access** refers to a household's ability to acquire that "available" food, either through its own (on-farm) production and stocks, market transactions (cash or in-kind) or transfers (private or government) for the current consumption year.

This CVA categorizes populations as food secure or food insecure. **Food-secure** populations can meet their food needs in the current year without altering normal income activities or depleting savings. For the purpose of response planning, food insecure populations are distinguished according to their degree of food insecurity:

- **Extremely food-insecure** populations have depleted their asset base to such a degree that without immediate outside assistance, they will face famine. Appropriate interventions include emergency food distributions and long-term rehabilitation programs.
- **Highly food-insecure** populations cannot meet their food needs during the current year without reducing consumption or drawing down assets to such a degree that they compromise their future food security. Appropriate interventions include nutritional support for vulnerable groups, food for work, income and asset support, and market interventions.
- **Moderately food-insecure** populations can meet their food needs in the current year, but only by drawing down savings or relying heavily on secondary income activities. Should market access or income from secondary activities be compromised, these populations might become highly food insecure in the current year. No interventions are necessary, but positioning of cereals would facilitate market interventions if conditions deteriorate.

This report is organized to first address food availability and then food access. Section II presents an analysis of food availability at the national and subnational levels. At the national level, the focus is on evaluating current levels of

[1] For most agricultural populations, the current consumption period refers to the period between the current harvest and the next harvest, which is usually, but not necessarily, a full year.

production, stocks, and net imports, comparing them to average levels and calculating the national food balance. This is the first step in understanding whether there will be enough food available to meet the consumption needs of the entire population in the current year. This is followed by an evaluation of changes in production at the subnational level and the possible implications these changes will have on food flows and local availability.

Section III presents an analysis of food access at the socioeconomic group level, going beyond the issue of food availability to a determination of how the current harvest and other factors have affected the various socioeconomic groups' ability to acquire sufficient food to meet their current food needs.

FEWS considers the following factors in making this determination:

- Harvest outcomes over the past 3 seasons
- Degree of dependence of each group on agricultural production for meeting food needs
- Levels and diversity of other income sources
- Market availability and prices of cereals[2]
- Coping strategies

Section IV summarizes the actions that are being taken or need to be taken to respond to any food emergencies.

[2] This takes into account the degree of integration of specific areas into the national market. Geographic isolation and status of transport infrastructure are key factors considered.

II. FOOD AVAILABILITY

A. National Food Availability

1. Production

The 1997/98 rainy season[3] started early or on time in most agropastoral areas. After the early season start, favorable distribution of rainfall in the crucial August-September period assured good results in the major cereal-growing areas and good pasture conditions across much of the pastoral zone. Gross national cereal production for 1997/98 is estimated at 2.38 million MT. Although it did not attain the record levels of 1994/95, cereal production for 1997/98 was 7 percent superior to 1996/97 levels and 9 percent above the average for 1992/93 through 1996/97[4] (table 1). Production of all cereals increased compared to last year, and production of all but sorghum and fonio increased compared to average.

Table 1: Provisional 1997/98 gross cereal production compared with 1996/97 and average production.

Cereals Season	Millet	Sorghum	Rice	Maize	Fonio	Wheat	Total
1997/98 Prod (MT)	774,000	584,000	663,000	340,000	18,000	5,000	2,384,000
1996/97 Prod (MT)	739,000	541,000	617,000	294,000	15,000	3,000	2,219,000
Average Prod (MT)	727,000	676,000	482,000	272,000	21,000	3,000	2,181,000
Difference in % 1997/98 vs 1996/97	+5	+8	+6	+16	+20	+67	+7
Difference in % 1997/98 vs Average	+7	-14	+38	+25	-14	+67	+9

Source: CILSS/FAO/National CILSS/Diaper Component, 23 October 1997.

2. Stocks

As of October 31, 1997, national cereal stocks stood at 205,760 MT—14 percent higher than at the same time the previous year. Total national stocks are comprised of estimations of farmers' stocks[5] in the productive zones of the country (106,200 MT), private commercial stocks[6] (66,000 MT), national security

[3] The rainy season typically runs from May to September; harvest usually occurs from August to December. For the purposes of this analysis, the 1997/98 agricultural season is referred to as this season, or this year. The 1996/97 agricultural season is referred to as last season or last year.
[4] Averages for all production comparisons refer to the average for 1992/93 though 1996/97, unless otherwise noted.
[5] Estimation from *l'Enquête Agricole de Conjoncture* (EAC) by the la Direction Nationale des Statistiques et de l'Informatique (DNSI) and the Direction Nationale de l'Appui au Monde Rural (DNAMR).
[6] Source: Direction Nationale des Affaires Economiques et Direction Nationale des Transports.

stocks[7] (30,000 MT), and WFP stocks (3,000 MT). National security stocks are double 1996 levels because emergency food was distributed in1997 than in 1996. National rice stocks are higher than 1996 levels following the Malian Government's decision in August 1997 to lift taxes on rice imports, to assure adequate provisioning of urban markets.

3. Imports and Exports

As in the past, the only planned cereal imports in 1998 are for wheat and rice. Planned wheat imports are estimated at 41,645 MT, of which 4,500 MT will be in the form of food aid. Despite a 67 percent increase in wheat production compared to the average of the past five years, total wheat production accounts for only 15 percent of needs, well below national consumption needs. Projected rice imports are estimated at 30,000 MT. This level takes into consideration current stock levels and increased domestic production. No official imports of traditional cereals (millet, sorghum, maize, and fonio) are expected.

The *Direction Nationale des Affaires Economiques* projects that there will be 20,000 MT of formal cereals exports in 1998, and this figure is used in the official cereal balance. However, the quantities officially declared for export represent only a fraction of total exports. Informal exports—those for which official statistics are not available—make up the difference. The main areas of supply for cereals exported to neighboring countries are in Sikasso Region and southern Kayes, Koulikoro, Ségou, and Mopti Regions. Merchants buy cereals in the major markets in these key production zones and transport them by road, river, and railroad across the borders. Because taxes on traditional cereal exports are not collected by the Economic Community of West African States (ECOWAS) countries, official statistics for these exports are not gathered in a comprehensive manner.

The magnitude of informal cereal exports from Mali to its neighbors varies according to the rhythm of cereal production in those countries. For the past several years, demand for Malian cereals has increased, largely because of poor production in neighboring countries, but also because the price of Malian rice has become more competitive with rice imported from outside the region since the devaluation of the CFA Franc in January 1994.

The National Transport Department (NTD), which monitors border traffic along key roads, estimated that around 40,000 MT of millet, sorghum and maize were exported between November 1996 and September 1997. The NTD also estimated that approximately the same quantities were exported via other roads that are not monitored and via railroad to Senegal. Considering that 1997/98 harvests in the neighboring countries (Mauritania, Senegal, Burkina Faso, and Niger) were below average, it is likely that cereal exports will exceed 100,000 MT

[7] Source: Office des Produits Agricoles du Mali (OPAM), which holds these stocks in deficit zones of the country.

in 1998. Although this figure is not used in the official food balance, it is considered in FEWS' analysis of current food security.

In response to reports of large outflows of cereal from Mali to neighboring countries, the Director General of Malian Customs issued a public notice reminding all economic agents of the rules governing cereal exports: any person planning to export rice or traditional cereals valued at more than 50,000 CFA and 25,000 CFA, respectively (essentially any quantity over one 100-kilogram sack of rice or two 100-kilogram sacks of other cereals) must fill out an export declaration form and file it with the nearest customs office, located in each of the regional capitals. Any person found in violation of these rules is subject to fines and confiscation of the cereals. The Customs Director also strongly urged customs agents to take all measures necessary to strictly enforce these rules. Rigid enforcement of this formality could reduce cereal exports, especially for smaller traders, who deal in volumes too small to recover the added cost of traveling long distances to file the export declaration.

4. National Cereal Balance

With a total population estimated at 9.4 million (April 1998),[8] domestic cereal availability of 2.08 million MT, projected net imports of 56,000 MT, and estimated national human consumption needs of 2.06 million MT, Mali's national cereal balance shows a surplus of around 65,000 MT (table 2), or around 54 percent greater than last year. While Mali normally produces a surplus of traditional cereals, this is the first year that domestic production will meet rice consumption needs.

[8] The population figure used is taken from the CILSS cereal balance sheet.

Table 2 : Preliminary Cereal Balance for 1997/98[9]

	Rice	Wheat/ Barley	Traditional Cereals[10]	Total
Population 4/30/98				9,436,000
I. Availability	450,890	6,510	1,623,220	2,080,620
Production				
-Gross Production	663,240	5,400	1,715,770	2,384,410
-Net Production[11]	411,870	4,590	1,458,400	1,874,860
Initial Stocks 11/1/97	39,020	1,920	164,820	205,760
-Farmer	-	-	106,200	106,200
-Other	39,020	1,920	58,620	99,560
II. Needs	400,000	47,880	1,618,900	2,066,780
Human Consumption[12]	384,290	39,160	1,499,760	1,923,150
Final Stocks	15,770	8,720	119,140	143,630
-Farmer	-	-	81,350	81,350
-Other	15,770	8,720	37,790	62,280
III. Gross Surplus/Deficit	+50,890	-41,370	+4,320	+13,840
IV. Imports/Exports	+30,000	+41,640	-20,000	+51,640
-Projected Commercial Imports	30,000	37,140	-	67,140
-Planned Food Aid	-	4,500	-	4,500
-Projected Exports	-	-	20,000	20,000
V. Net Surplus/Deficit	+80,890	+270	-15,680	+65,480
VI. Per Capita Cereal Availability (kg)[13]	50.96	5.10	169.91	225.97

Source: Project DIAPER III (CILSS-European Union).

[9] All quantities are in MT unless otherwise noted.
[10] Includes millet, sorghum, maize, and fonio.
[11] Net production is obtained by multiplying gross production by the following coefficients: 0.62 for rice and 0.85 for other cereals.
[12] Consumption standards (kg/person): rice – 40.72; wheat/barley – 4.15; traditional cereals – 158.94; total – 203.81.
[13] Per capita availability includes net production, initial stocks, and net imports.

B. Subnational Cereal Production and Flows

The key cereal production zones in Mali are Sikasso Region and southern Kayes, Koulikoro, Ségou, and Mopti Regions (figure 3). Ségou has by far the highest average net per capita production, at just over 350 kg per person (table 3). Sikasso is a distant second, at just over 270 kg per person. These two regions together provide on average 56 percent of total national cereal production. Using the national consumption standard of 204 kg per capita, these are the only regions that produce significant surpluses—231,000 MT and 103,000 MT, respectively. Kayes, Koulikoro, and Mopti produce roughly 140, 180, and 200 kg per capita, respectively, with high production in the south but low production in the north. The arid northern regions of Gao, Kidal, and Tombouctou, like the capital, Bamako, are structurally cereal-deficit and rely every year on the surplus zones, regardless of the harvest outcome, to meet their cereal consumption needs. However, harvest outcomes in the key production zones determine cereal prices and the magnitude of flows.

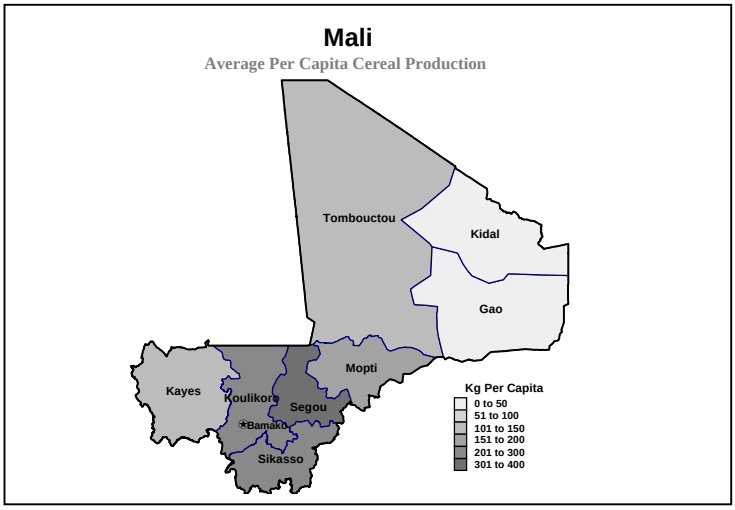


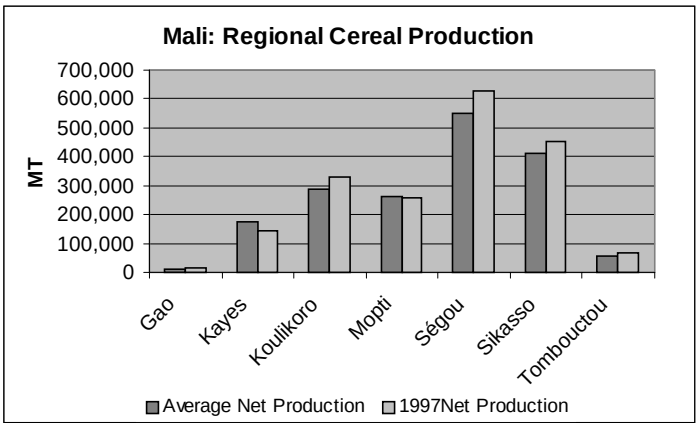
Table 3: Regional Cereal Production, 1997/98 Compared to Average[4]

Region	Avg Needs (MT)	1997/98 Needs (MT)	Avg Net Prod (MT)	1997/98 Net Prod (MT)	Avg Net Per Capita Prod (kg)	1997/98 Net Per Capita Prod (kg)	Avg Cereal Balance[14] (MT)	1997/98 Cereal Balance (MT)
Bamako	199,960	234,300	0	0	0	0	-199,960	-234,300
Gao	89,388	99,274	9,173	13,493	21	28	-80,214	-85,780
Kayes	252,959	269,232	172,860	145,662	140	110	-80,100	-123,570
Koulikoro	288,823	309,727	288,926	327,273	204	216	104	17,545
Mopti	291,246	303,917	261,240	259,761	183	174	-30,007	-44,156
Ségou	321,203	341,472	552,696	628,614	351	376	231,492	287,142
Sikasso	309,082	328,681	412,409	452,696	272	281	103,327	124,015
Tomboutou	95,021	96,670	54,677	66,208	117	140	-40,344	-30,462
Mali	1,647,723	1,983,272	1,751,981	1,893,706	161	166	-95,702	-89,566

Source: Enquête agricole de Conjoncture DNA/DNSI-Diaper CILSS; DNSI 1987 CENSUS

[14] 'Cereal balance' in this table refers to the difference between local consumption needs and local production. It does not take into account stocks, imports, or exports.

This year, all regions except Kayes registered above-average cereal production (figure 4). In the case of Kayes, the decrease was due to increased area being planted to cotton. At the subregional level, however, in northern Mopti, western Tombouctou, and eastern Gao, cereal harvests were poor, following pest attacks and reduced rainfall levels. The increased cereal availability in the surplus zones will help to offset the production shortfalls in these areas and provide adequate supplies for other structurally-deficit areas. Cereal prices through much of 1997 were almost half their level at a similar period in 1996, making cereals much more accessible to net cereal purchasers. Continued peace in northern Mali will facilitate the normal commercial flow of cereals to the northern regions.



Source: DNA/DNSI/CILSS-DIAPER
Figure 4

III. FOOD ACCESS

A household's vulnerability to food insecurity and famine is determined in great part by its capacity to cushion "income shocks" through use of existing resources and other coping strategies. This capacity is determined by long- and short-term factors. The long-term factors include the quality of the resource base, the agro-climatic zone, the level of infrastructure development, and institutional factors, such as kinship relationships, government policies, the quality of the extension service, and the efficiency of input and output markets. The short-term factors are intimately linked to the quality of the most recent agricultural and pastoral seasons and affect both rural and urban populations. The linkages are direct for the rural populations and indirect for urban populations whose purchasing power is affected by cereal and animal prices. The objective of FEWS current vulnerability analyses is to analyze the impact of the most recent events on the ability of each population group to meet their food needs during the next hungry season.

Much of the Sahel's rural population experiences chronic food insecurity in the hungry season (from May to October). This corresponds to the period between the beginning of the rainy season and the first harvests, with its exact length determined by the quality of the preceding harvest and the onset of rains for the next season. During the hungry season, deficit households run out of food from their own production and rely on the market for food purchases. Prices of food

items normally reach their maximum level during this period, making food access difficult.

[DS1]

FEWS analysis of current food security status in Mali indicates that in 1997/98 the majority of Malians are more food secure than they have been since the bumper harvest of 1994/95. However, 211,000 farmers and pastoralists are highly food insecure and another 738,000 are moderately food insecure (table 4). The factors that have contributed to current food security status are discussed below.

Table 4: Food Insecure Populations in Mali in 1997/98[15]

Region/ Circle	**Highly Food Insecure**			**Moderately Food Insecure**				
	Irrigated and Recessional Farmers	Pastoralists	**Total**	Dryland Farmers	Irrigated and Recessional Farmers	Agro-pastoralists	Pastoralists	**Total**
Mopti								
Mopti				31,000	84,000	21,000		136,000
Bandiagara				26,000		32,000		58,000
Djenné				21,000	56,000	21,000		98,000
Douentza				26,000		26,000		52,000
Ténenkou	28,000		28,000	18,000	34,000	23,000		75,000
Youvarou	15,000		15,000	8,000	25,000	11,000		44,000
Total	43,000		43,000	130,000	199,000	134,000		463,000
Tombouctou								
Tombouctou	11,000	3,000	14,000		4,000	3,000	7,000	14,000
Diré		4,000	4,000		8,000		10,000	18,000
Goundam	64,000	7,000	71,000		39,000	26,000	19,000	84,000
Gourma Rharous		4,000	4,000			9,000	13,000	22,000
Niafunké	32,000	5,000	37,000		18,000	19,000	9,000	46,000
Total	107,000	23,000	130,000				58,000	58,000
Gao								
Gao		11,000	11,000				27,000	27,000
Ansongo		8,000	8,000				12,000	12,000
Bourem		3,000	3,000				9,000	9,000
Ménaka		7,000	7,000				19,000	19,000
Total		29,000	29,000				67,000	67,000
Kidal								
Kidal		2,000	2,000				5,000	5,000
Tessalit		2,000	2,000				5,000	5,000
Abeïbara		4,000	4,000				11,000	11,000
Tin Essako		1,000	1,000				3,000	3,000
Total		9,000	9,000				24,000	24,000
Total	150,000	61,000	211,000	130,000	268,000	191,000	149,000	738,000

Source: FEWS/USAID Mali, January 1998

[15] See Appendix 1 for an explanation of how the numbers of food insecure in each group were derived.

A. Rural Populations

1. Farmers
Malian farmers exploit two main agricultural production systems: rainfed cereal and cash crop production, and irrigated and recessional rice production.

a. Dryland Farmers
Rainfed agricultural zones in Mali are divided into two agro-ecological zones from north to south. Farmers in the Sahelian zone (north) are generally more vulnerable to food insecurity than those living in the more humid Sudanian zone. The Sudanian zone (south) is distinguished by the relative regularity of its rainfall and by its longer growing season (up to 6 months long).

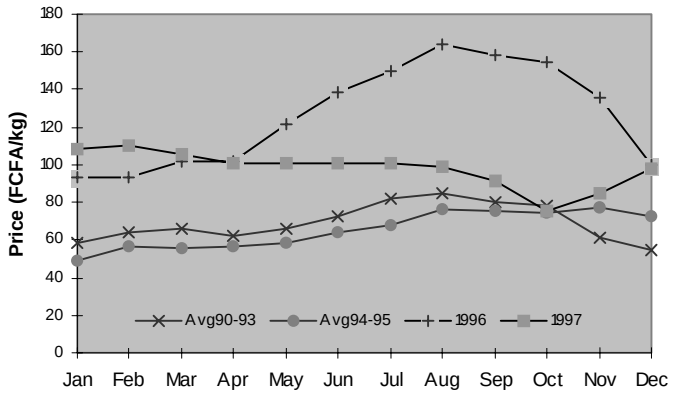
In addition to traditional cereals, cotton is a principal source of income for many farmers in Sikasso Region and the southern parts of Kayes, Koulikoro, and Ségou Regions. Farmers in this zone benefit from an integrated technical assistance program. The past three years were marked by an extension of the cotton zone to other Sudano-Sahelian areas of the country—most notably Kita Cercle in Kayes Region. Cotton production in 1997/98 was 561,578 MT. This marks the third consecutive year of record production and Mali is now the second largest producer and the largest exporter of cotton in Africa. Approximately 2.5 million farmers in the zone earned around 70 billion CFA from cotton production this year. These farmers not only have a regular source of revenue (cotton is the number one export product in Mali), but they are also generally self-sufficient in cereals—and increasingly so in recent years. For the third year in a row, this zone has enjoyed record agricultural production in cotton and in cereal crops. The populations in this zone are therefore food secure.

In the northern Sahelian zone, the vulnerability of rainfed farmers is intimately tied to the high variability in yearly rainfall, which has a large impact on their ability to grow cereal crops. An analysis of the variability of rainfall and biomass development suggests that the areas at highest risk for drought are situated in the Sahelian zone running from northern Kayes Region in the west to northern Mopti Region in the east. Sahelian farmers are frequently the victims of drought and pest attacks. For this reason farmers in the northern parts of Kayes, Koulikoro, Ségou, and Mopti Regions have a moderate level of chronic or structural vulnerability. Their level of current food insecurity is essentially a function of the level of agricultural production (mainly cereals) and cereal prices, as most farmers depend on markets to purchase cereals.

During the 1997/98 season, the greater part of the Sahelian zone, like most agricultural areas of the country, experienced an early or on-time rainy season start, followed by good rains in August and September. With good harvest perspectives in sight, cereal prices (already significantly lower than at the same time in 1996) began their seasonal decrease in August. By October, millet prices at some

markets, most notably those of Ségou (figure 5), had fallen to the 1990-93 (predevaluation) average and 1994-95 (post devaluation)[16] average.

Having enjoyed good cereal production in 1997/98 and easier access because of lower prices throughout 1997, Sahelian farmers in Kayes, Koulikoro, Ségou and southern Mopti are considered food secure in 1998. However, in northern Mopti (Douentza, Tenenkou, Youvarou, Djenne, and the northern parts of Mopti and Bandiagara Cercles), cereal harvests were generally poor following below average rainfall and attacks by grasshoppers and grain-eating birds. Lower cereal prices than in 1997 will improve access to food; however, around 130,000 farmers are considered moderately food insecure in Mopti Region. The variety of coping strategies developed by households in this area (migration, market gardening, and rice harvests) will carry them through the next hungry period, but they will experience a longer-than-average hungry season.



Source: Market Information System
Figure 5

b. Irrigated and Recessional Farmers

Irrigated and recessional farmers are divided into two principal groups:

- those who cultivate rice in managed irrigation schemes like the Office du Niger or Operation Riz Mopti and Operation Riz Ségou; and
- those who grow rice using traditional methods near dams, like Selingué in Sikasso Region, or in small village irrigation schemes (Petits Perimetres Irrigués Villageois) along rivers in Kayes, Koulikoro, Tombouctou, and Gao Regions, or in improved *bas-fonds* areas in Sikasso Region.

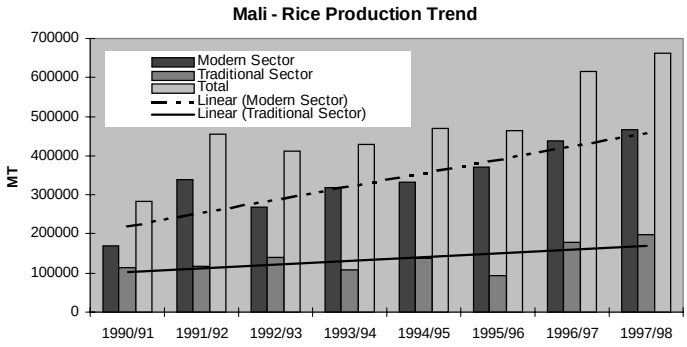
Production for the first group is basically assured by the management of water while that of the second group is linked to the variability of rainfall and the seasonal rising or filling of rivers, ponds, and lakes.

The most striking development in Malian agriculture over the past few years has been the increase in rice production (figure 6) and the growing share of rice in total production. The 1997/98 harvest was 8 percent higher than in 1996/97 and 38 percent higher than average. Rice production made up 28 percent of total national cereal production, an increase of more than one-third (34 percent) since 1992. For the third consecutive year, rice production was at a record level

[16] 1996 is not included in this post devaluation in order to highlight the unusually high prices in 1996.

(663,245 MT); the gains have come predominantly from the modern sector, localized in Ségou and Mopti Regions.

The succession of record harvests result from various factors: market liberalization policies (begun in the 1980s), infrastructure improvements, the devaluation of the CFA Franc (which made Malian rice more competitive with imported rice), and improved agricultural techniques (which translated into increased yields—from 1.6 MT/HA in 1982 to 5.2 MT/HA in 1996 in the Office du Niger).



Source: DNA/DNSI/CILSS-DIAPER
Figure 6

For the third consecutive year since the devaluation of the CFA, farmers have benefited from higher-than-average producer prices because of increased demand both from inside and outside of Mali. [DS2] High producer rice prices, record rice production for the third consecutive year, and improved access to traditional cereals have left irrigated farmers in these areas among the most food secure populations in Mali.

In the Niger River Valley in Mopti, Tombouctou, and Gao Regions, flooded rice (riz de submersion) is the principal crop, followed by recessional sorghum. In these areas, crops depend not only on rainfall but also on the natural seasonal rising or filling of rivers, ponds, and lakes. In 1997, the rainy season began late in all of these areas while the river flooded at the normal time, washing out young plants. The combination of lost plantings and bird attacks later in the season caused losses of up to 50 percent of planted area, affecting around 80 percent of Tombouctou Region. Approximately 150,000 recessional farmers in the lake and river areas are highly food insecure and another 268,000 are moderately food insecure in Mopti and Tombouctou Regions.

Nevertheless, these populations in the Niger River Valley of Mopti, Tombouctou, and Gao Regions are actually more food secure than during the previous year, principally because of repairs to dams and other infrastructure (completed in 1997 in Tombouctou and Gao Regions) and the expected good rice harvest in Gao Region. By relying on other income sources, including the sale of straw mats and hay for livestock, off-season cultivation, participation in small irrigation scheme harvests, and other development activities promoted by NGOs working in the area, farmers in these areas will not experience a food crisis this year. It should be noted that the SAP has also identified 90,000 persons in Tombouctou Region as being highly food insecure. The SAP has estimated the needs of the

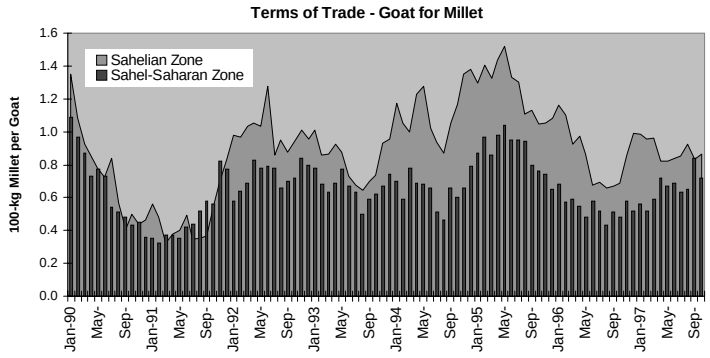
affected populations to cover the hungry period at 2,500 MT, and this amount of assistance may be recommended following planned field surveys in February and March 1998.

2. Pastoralists, Agropastoralists, and Fishermen

a. Pastoralists

Animal husbandry and nomadism are practiced in the Sahelian and Saharo-Sahelian zones of the country, north of the 15th parallel. At the end of the rainy season, nomads migrate towards the south and southwest in the direction of the Senegal River and the inner Niger delta in search of winter pastures. Pastoralist populations depend on the products of their animals (milk, butter, slaughtering of small ruminants, etc.) for income to purchase cereals and other necessities. Their food security status varies, contingent on pastoral conditions and cereal prices. For the second consecutive year, pastoral conditions are good in most areas of the country. The return of peace to the northern regions has increased the mobility of pastoralists.

In contrast to the two previous years when the effects of years of armed conflict were still perceptible, cereal markets in most pastoral zones have sufficient supplies. As was the case across the country, cereal prices in most pastoral areas began to fall in August 1997. The decrease in cereal prices and the increase in animal prices improved food access for most pastoralists. The terms of trade—defined here as the quantity of millet obtained from the sale of one goat—improved in 1997 compared to 1996. In 1996, the terms of trade had attained their lowest level since 1991, which followed the worst agropastoral season in more than ten years (figure 7). As of December 1997, the sale of one goat bought 70 kilograms of millet, whereas in 1996 the sale of the same goat returned only 50 kilograms.



Source: National Early Warning System (SAP)
Figure 7

The return of nomad populations who were refugees in neighboring countries (Mauritania, Burkina Faso, and Algeria) during the conflict is nearly complete. The United Nations High Commission for Refugees (UNHCR) has provided food and other assistance to these populations. However, the scars of over 5 years of civil conflict are still apparent: many households have lost their livestock, and residual banditry continues to disrupt economic activity. Around 63,000

pastoralists in the northern regions are highly food insecure while 148,000 others are moderately food insecure. This is in contrast to the situation in 1996/97 when the majority of this population was considered to be highly food insecure. Satisfactory pastoral conditions, combined with improved access to markets and easier commercial exchanges with other regions of the country, have contributed to improved food security status.

b. Agropastoralists

A large part of the Sahelian population complements their crop production activities with small- or large-scale animal husbandry activities. This combining of activities represents a strategy for reducing risk of food crisis. Households sell animals to purchase cereals and other necessities. In 1997, harvests were generally good across the Sahelian zone, contributing to a drop in cereal prices. In addition, pasture conditions were good across much of the zone, contributing to higher animal prices and favorable terms of trade. This year most agropastoralists are considered to be food secure.

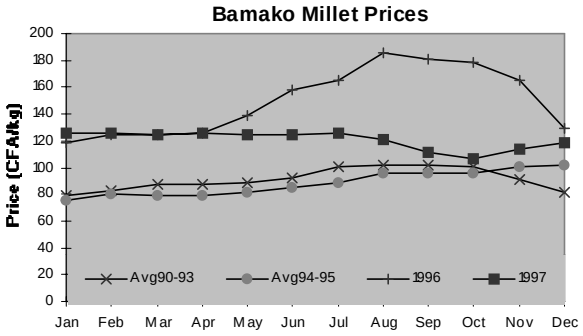
However, in certain parts of the Sahelian band, late rains and pest attacks reduced harvests considerably. The areas most affected include Mopti, Douentza, Youvarou, Tenenkou, and Bandiagara Circles in Mopti Region and Tombouctou, Goundam, Niafunké, and Gourma Rharouss Circles in Tombouctou Region. For the second consecutive year, the agropastoral season was poor in these areas. Despite improved access to cereals in 1997, around 190,000 agropastoralists are moderately food insecure in Mopti and Tombouctou Regions.

3. Fishermen

Fishing is an important activity for a number of ethnic groups (principally the Bozo and Somono) who live near rivers and lakes. Income gained from fishing may represent 5 to 10 percent of total revenue for farmers and 60 to 80 percent for fishermen. Because of record river levels during the 1995/96 and 1996/97 seasons in many areas, fish catches in 1997 were reportedly the highest for the past ten years. In addition, since the devaluation of the CFA, fish exports to neighboring countries have become much more profitable. For example, in 1995, yearly revenues for 400 fishermen in the Manatali Lake area were estimated at 200 million CFA—or around 500 thousand CFA per person, representing a doubling of their incomes over three years. If incomes increase at the same pace in 1998, the same fishermen will earn 1 million CFA each. River levels following the 1997/98 growing season should be sufficiently high to allow good catches in 1998. Supplementary activities such as recessional farming and market gardening will also increase incomes. Fishing households are considered food secure as a result.

B. Urban Populations

Urban populations are concentrated essentially in Bamako, Ségou, Kayes, and Mopti and represent around 16 percent of the population. Many urban residents are salaried workers in the private or public sectors or work in the informal sector. Their food security status varies with their purchasing power.



Source: Market Information System (SIM)
Figure 8

In contrast to 1996, when cereal prices rose rapidly and without precedent during the hungry season, prices in most urban centers remained stable throughout 1997 before beginning to fall in the pre-harvest period. While prices are higher than the averages for 1990-93 and 1994-95, millet prices in Bamako were 31 percent lower in November 1997 than during the same period in 1996 (figure 8).

Rice prices followed the same pattern, to the benefit of urban consumers. Falling cereal prices and the 5 percent increase in salaries in 1997 have reduced vulnerability levels of urban residents. Most urban residents therefore are considered food secure.

IV. CONCLUSION

The 1997/98 agricultural season was good, and cereal prices are lower than the previous year. FEWS analysis of vulnerability suggests that fewer people are food insecure this year than last. Most local shortages will likely be met through commercial exchanges. However, in Mopti and Tombouctou Regions, 150,000 farmers are highly food insecure and another 589,000 farmers and agropastoralists are moderately food insecure because they suffered losses to rainfed and recessional crops. Depending on the evolution of conditions in Tombouctou Region, the SAP may recommend up to 2,500 MT of cereals for distribution there beginning in April 1998. In addition, FEWS has classified 61,000 pastoralists as highly food insecure and another 149,000 as moderately food insecure in Gao, Kidal, and Tombouctou Regions. Despite a return to peace in these northern areas, 5 years of armed conflict have had lingering[DS3] effects: some herders have lost all their livestock, and banditry continues to affect economic activity, leaving these pastoralists dependent on outside assistance to meet their food needs in 1997/98. Available security stocks of 30,000 MT will cover the 2,500 MT of cereals the SAP is likely to recommend for distribution in Tombouctou Region. Thus no emergency food imports will be necessary.

Appendix

1. Calculation of numbers of food insecure

This vulnerability analysis was performed for each socioeconomic group at the arrondissement level (4th order administrative level, with the national level as the 1st level). Six major socioeconomic groups were considered:

- dryland farmers
- irrigated and recessional farmers
- agropastoralists (Sahelian zone)
- pastoralists
- fishermen
- urban residents

The arrondissement level population data is derived from the 1987 census (Direction Nationale de la Statistique et de l'Informatique (DNSI)) using arrondissement-specific population growth rates.

The percentage of each arrondissement's population that falls into each of the six socioeconomic groups is determined from a study FEWS carried out in 1992 on the diversity of income sources in Mali.[17]

For the current vulnerability assessment, the food security status of each socioeconomic group is determined at the arrondissement level and the entire population of this group is assigned that status.

[17] Diversity of Income Sources in Mali, Analysis and Methodology, T. R. Fattori, P. Bartel, C. May and S. Sow, June 1992, FEWS/MALI.

Page: 13

[DS1]I moved this sentence to the end of the paragraph above (ie, in box) – it deals with general objectives, not just 97/98 VA. Okay? Fine.

Page: 16

[DS2]Is this relevant to this 1997/98 VA? I'd suggest deleting or replacing with a more "timely" example. Fine to delete.

Page: 19

[DS3]"Lasting" has a positive connotation, while negative is needed here. But I can't think of a different adjective except "devastating" (too harsh) or "crippling" ??? Any ideas? How about lingering?